

**WHAT IS CLAIMED IS:**

1. An apparatus for forming a beam in a base station, comprising:
  - a plurality of channel cards for processing and outputting signals to be  
5 transmitted to each channel;
  - a signal synthesizer/distributor for synthesizing the signals from the channel  
cards and compensating phases of the signals;
  - at least one channel controller for controlling beams of the signals from the  
signal synthesizer/distributor according to a demand of a mobile communication  
10 terminal, and outputting the controlled beam signals;
  - at least one middle frequency generating block for receiving the signals from the  
at least one channel controller and synthesizing the signals in each frequency to generate  
middle frequency signals;
  - at least one transmitter for converting the middle frequency signals received from  
15 the at least one middle frequency generating block into signals in a transmitting band;
  - an RFB for amplifying the signals from the at least one transmitter into signals in  
an output band and controlling phases of transmitting and receiving signals; and
  - an antenna connection block for switching the amplified signals to corresponding  
antennas of the RFB so that beams can be generated.
2. An apparatus for forming a beam in a base station, comprising:
  - a plurality of transmitters for transmitting signals, the signals being controlled in  
beam form according to the number of users in the base station;
  - a coupling block for receiving the signals from the transmitters and transmitting  
25 the received signals to an antenna side;
  - a switching controlling block for receiving the signals from the coupling block  
and switching the received signals according to the controlled results to output the  
switched signals;
  - an amplifying block for amplifying the signals from said switching controlling  
30 block in a certain level and outputting the amplified signals; and
  - a plurality of matrix buffers for receiving the signals from the amplifying block  
and switching the received signals to antennas to control beam shapes.